



KelairPumps

PumpAction..... Issue 50 May 08

Case Study

Kelair-Blivet effectively treats wastewater in remote areas

Sales Engineer Peter Doran TAS

The treatment and disposal of wastewater have become



particularly important considerations in recent years, especially for new develop-



ments that are unable to connect to an existing sewer main and existing developments where septic tanks are located in close prox-

imity to a water course.

For several years Kelair has been providing reliable and cost-effective wastewater treatment solutions in the form of its Kelair-Blivet™ packaged wastewater treatment plants which are primarily designed to cater for equivalent populations (E.P.) of between 30 and 400 people and have been used to great effect in a variety of applications throughout Australasia.

Many of the 17 Kelair-Blivet™ installations within Tasmania are in remote locations and one such example is at a small coastal holiday shack area in Southern Tasmania, which required a wastewater treatment and disposal system to replace a series of old septic tanks. Kelair worked closely with the installing contractor, local council and consulting engineers to provide a complete package that includes a Kelair-Blivet BL1500

treatment plant with control panel and access walkway; packaged pump stations to transfer effluent to the plant; chlorine disinfection system and treated effluent disposal



pumps to transfer the Class B standard effluent to soakage trenches. The proven per-



formance of the Kelair-Blivet™ combined with our ability to provide packaged pumping solutions has

Products

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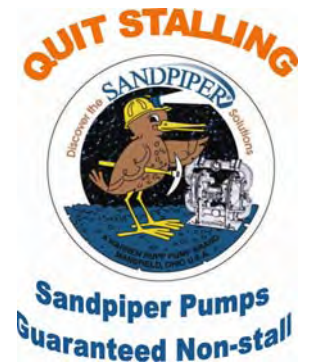
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helped Kelair to maintain our position as a respected supplier of wastewater treatment systems as well as municipal and industrial pumping products within Tasmania, throughout Australia and beyond.



Instructions for the Safe Starting and Operation of Air Powered Diaphragm Pumps for Mining *Myro Bratkovic QLD*

Installation

Locate the pump as close to the source of water as possible, keeping the suction hose length as short as practical.

Ensure that the suction hose is fitted with a suction strainer to reduce the entry of large solids.

When running, an air pump will vibrate due to the nature of its operation so ensure that the pump is on a firm level footing to reduce the

risk of the pump falling over.

Air Supply

The correct air supply pressure for the safe operation of an air diaphragm pump should not be greater than 100psi or 690 kPa.

Ensure that the pump air throttle valve is fully closed.

Before connecting the air supply to the pump, open the air supply valve slightly to blow out any dirt / contami-

nants or particles that may have accumulated in the air hose.

Connect hose to pump and open the air supply to the pump, making sure that the air throttle valve on the pump is still fully closed.

Pump Priming

For start up, slowly open the air throttle valve on the pump by 1/2 to 3/4 of one turn. **Never** start the pump with the air throttle valve fully

open. Opening the bleed valve on the pump discharge slightly may assist in the pump priming and removal of air from inside the pump and the suction hose.

After the pump has primed, the air throttle valve can be opened slowly to increase the pump-out rate.

Increasing the cycle rate by opening the air throttle valve does not always mean that the flow rate increases. A

Instructions for the Safe Starting and Operation of Air Powered Diaphragm Pumps cont.)

point may be reached when the pump begins to cavitate.

Cavitation can lead to the diaphragms being cycled in an 'unbalanced' state. This can reduce the diaphragm life and should be avoided.

Air Exhaust

A new Sandpiper pump is always supplied with an integral exhaust muffler to dampen exhaust air noise. We recommend that an exhaust muffler be fitted at all times to any brand of air diaphragm pump.

Fluid leakage from the exhaust of an air diaphragm pump can be an indication that a diaphragm has ruptured.

Operating on Snore

Never allow a pump to run on snore with full air supply open to the pump.

This will reduce the life of the pump and possibly cause the pump to airlock and fail to re-prime.

When running on snore, reduce the pump cycle rate by closing the air throttle valve on the pump until the pump just cycles over without stalling.

TROUBLE SHOOTING

Pump does not cycle: Check adequate air supply to pump.

Check discharge line to determine if pump is stalled / deadheaded.

Check if air leaking from discharge port. This is an indication of a ruptured diaphragm.

Check air and pilot valves for contamination / blockage / wear.

Pump cycles but does not run: Air suction leak on suction hose or leaking suction line fittings.

Blocked or plugged strainer. Check valves not seated – pump blocked around valve balls.

Suction hose too long, preventing the pump from priming.

Low Pump Performance: High cycle rate – starved

suction, pump on snore or pump suction partially blocked.

Low cycle rate – high pump out line back pressure.

Erratic & unbalanced operation – partial blockage around one or more check valves.

Pump stalling: Air pressure set too low – reset air supply pressure.

Damage / wear to air and or pilot valves – pump requires service.

Case Study

Sandpiper Special Duty Food-Grade Pumps Meet High Standards

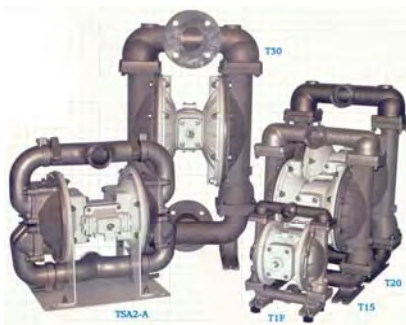
*Sales Engineer
Mark Butterfield NSW*

Whilst Kelair can supply Sandpiper's Heavy Duty SA series in food grade materials, for some customers simply using a pump built from suitable materials is not acceptable.

Kelair supplies Sandpiper's range of FDA, USDA and 3-A approved air-operated double diaphragm (AODD) pumps to customers whose manufacturing facilities must comply with these standards. Pumps from this range of sanitary products have found homes in the factories of many of Kelair's customers in the food and pharmaceutical industries.

For each application, Kelair's engineers work with customers' engineers and specify suitable Sandpiper pumps that meet the relevant standard.

To date, Kelair has supplied



sanitary AODD pumps for use with alcoholic beverage ingredients, sauces and liquid-based lotions, the most recent application using a T15 FDA-approved pump for a transfer operation in a Sydney-based pharmaceutical manufacturing facility.

The FDA and USDA-approved pumps are supplied with 316-grade stainless steel wetted parts, with a bead-blasted finish for FDA approved pumps and an electro-polished finish for USDA pumps, FDA Santoprene, FDA Nitrile or PTFE elastomers (FDA pumps), or food-grade white Nitrile or EPDM elastomers (USDA pumps).

All pumps are equipped with Sandpiper's lube-free non-stall ESADS air system and are fully bolted with easy-turn screws for quick disassembly. The pumps up to 2" in size are offered with tri-clamp fittings, whilst 3" pumps are offered with an ANSI flange.

The pumps are available in 1" through 3" ball check valve designs and a 2" flap check valve design.

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Sandpiper Features and Benefits

- Non-stalling guarantee
- Cross-drilled technology, to eliminate stalling
- ESADS (Externally Serviceable Air Distribution System), allowing repair of pump without removing from pipeline
- Fully-bolted design, minimising repair time and reducing maintenance cost
- Lubrication-free, eliminates requirement for lubricators, reducing initial cost and maintenance cost